

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PLATFORM SCIENCE, INC.,
Petitioner,

v.

OMNITRACS, LLC,
Patent Owner.

IPR2020-01612
Patent 6,925,308 B2

Before BART A. GERSTENBLITH, JAMES J. MAYBERRY, and
FREDERICK C. LANEY, *Administrative Patent Judges*.

GERSTENBLITH, *Administrative Patent Judge*.

DECISION

Granting Petitioner's Request on Rehearing
37 C.F.R. § 42.71(d)
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Platform Science, Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) to institute an *inter partes* review of claims 1–4, 6–9, 11, 12, and 15 (“the Challenged Claims”) of U.S. Patent No. 6,925,308 B2 (Ex. 1001, “the ’308 patent”). Omnitrac, LLC (“Patent Owner”) filed a Preliminary Response (Paper 9, “Prelim. Resp.”).

In our Decision Denying Institution of *Inter Partes* Review, we concluded that Petitioner failed to demonstrate a reasonable likelihood that it would prevail in showing that at least one claim of the ’308 patent is unpatentable. Paper 11 (“Decision” or “Dec.”). Specifically, regarding independent claims 1 and 12, we concluded that Petitioner’s challenge did not show that whatever information Coffee may copy is “based on which one of said pre-defined formatted messages was received.” *Id.* at 29–30 (discussing claim 1), 31–32 (discussing claim 12). Similarly, for independent claim 7, we concluded that Petitioner’s challenge did not show identifying certain information fields to be copied “based on said message identification code.” *See, e.g., id.* at 30–31. Accordingly, we declined to institute trial on the Challenged Claims of the ’308 patent. *Id.* at 37.

Petitioner timely filed a Request for Rehearing (Paper 12, “Rehearing Request” or “Req. Reh’g”) of our Decision. For the reasons set forth below, Petitioner’s Request is *granted* and we institute an *inter partes* review of the Challenged Claims of the ’308 patent on all grounds asserted in the Petition.

II. STANDARD OF REVIEW

A party requesting rehearing bears the burden of showing that the decision should be modified. 37 C.F.R. § 42.71(d). “The request must specifically identify all matters the party believes the Board misapprehended

or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply.” *Id.* When rehearing a decision on a petition, we review the decision for an abuse of discretion. 37 C.F.R. § 42.71(c).

III. PETITIONER’S REHEARING REQUEST

A. *Petitioner’s Arguments*

Petitioner contends that we misapprehended or overlooked that Coffee’s¹ “message 7102 is but **one** of a ‘number of pre-defined formatted messages,’ *i.e.*, messages 7101, 7102, 7103, 7104, and 7106 that the [Mobile Data Terminal (MDT)] can receive.” Req. Reh’g 1. Petitioner contends that “dependent on (*i.e.*, ‘based on’) which one of these formatted messages was received, the MDT takes corresponding action (*e.g.*, based on receiving ‘formatted message’ 7102, creating response message 7202 and copying information from received ‘formatted message’ 7102 to response message 7202) – as required by the claims.” *Id.* at 1–2 (citations omitted).

Petitioner asserts that

while it is true that the **format** of MDT response message type 7202, *i.e.*, the arrangement of fields into which information from a received tracker message 7102 is copied, may be the same for each corresponding received message type 7102 (just as in the ’308 patent at Fig. 2, 6:38–41; Pet. 17–18), the record clearly shows that the **content** of the response message 7202 (*i.e.*, what is copied into the response message fields from received message 7102) is **not** always the same.

Id. at 2.

¹ U.S. Patent No. 6,611,755 B1, issued August 26, 2003, from an application filed December 19, 1999 (Ex. 1005, “Coffee”).

As examples, Petitioner explains that if message 7102 is received, “a response message 7202 is generated including ‘IOD’ and ‘Response’ copied into the response message 7202.” Req. Reh’g 6. If, however, message 7103 is received, “a response message 7203 is generated including ‘Data Type Identified’ and ‘Data bytes’ copied into the response message 7203.” *Id.* (citing, *inter alia*, Ex. 1005, Tables 58, 59, 63, 64). Petitioner asserts that “the difference between the two necessarily depends on the type of ‘formatted message’ that was received.” *Id.*

Additionally, Petitioner argues that we overlooked “that different ‘formatted message’ types, identified by the message identification code, can be received at the MDT.” Req. Reh’g 10 (citing Pet. 28–29; Ex. 1003 ¶ 86). Petitioner contends that it explained in the Petition that “the four digit number, *i.e.*, 7101, 7102, 7103, 7104, and 7106, is the ‘message identification code,’ which ‘also identifies the type of the message transmitted from the tracker to the MDT,’ *based on which* the MDT determines what to do in response to the received message.” *Id.* (citing Pet. 28–29; Ex. 1003 ¶ 86). Petitioner indicates that “[t]he MDT generates response message 7202 *only* if it receives message type 7102.” *Id.* (citing Pet. 32–33, 43–44; Ex. 1003 ¶ 100; Ex. 1005, 56:63–67, Tables 58, 63). Thus, Petitioner asserts “the MDT copies information from message 7102 to message 7202 *based on* receiving ‘formatted message’ 7102.” *Id.* at 11 (citing Pet. 32–33). Petitioner contends that “[i]f the MDT receives any other ‘formatted message,’ *i.e.*, 7101, 7103, 7104, or 7106, it will take action based on which one of these ‘formatted messages’ was received.” *Id.* Accordingly, Petitioner argues that the claim limitation is satisfied by the

showing that “Coffee’s response message 7202 is generated based on the MDT receiving ‘formatted message’ type 7102.” *Id.* at 12.

B. Discussion

With respect to independent claims 1 and 12, Petitioner has persuaded us that we misapprehended Petitioner’s position with respect to Coffee and whether Coffee copies certain information “based on which one of said pre-defined formatted message was received.” In particular, we understood Petitioner to focus on received message data 7102 and text message response 7202, as shown in Tables 58 and 63, and, so, we focused there too. Dec. 29–30. We did not appreciate that Petitioner also relies upon other messages exchanged in Coffee with respect to this limitation, and only pointed to 7102/7202 as an example. *See, e.g.*, Pet. 28 (discussing messages exchanged between the tracker and MDT); *see also id.* at 27 (“Coffee’s predefined message packets . . . are equivalent to the claimed ‘pre-defined formatted messages.’”). We now understand that applying the *example* of 7101/7202, Petitioner contends that Coffee discloses or renders obvious “field-mapping information for indicating information to be copied from said formatted message to a response message based on which one of said pre-defined formatted messages was received” because if received message data 7102 is received at the MDT, certain information is copied to text message response 7202, but if received user data 7103 is received at the MDT, different information is copied to user data output 7203. *See, e.g.*, Req. Reh’g 5–6 (relying, *inter alia*, on Pet. 28–29).²

² Petitioner also contends that “[c]ontrary to the Patent Owner’s apparent claim interpretation followed in the Decision, the claims require only *one instance* of copying information from a ‘formatted message’ to a response

Similarly, with respect to independent claim 7, Petitioner has persuaded us that we misapprehended Petitioner’s position with respect to Coffee and whether Coffee copies certain information “based on said message identification code.” Dec. 30–31. We now understand that Petitioner contends the MDT determines the message identification code of the message transmitted from the tracker to the MDT and based on that code determines what to do in response to the received message. Req. Reh’g 10 (citing, *inter alia*, Pet. 28–29); *see also* Pet. 51–52 (“Coffee describes that in order to render the response message that corresponds to the received message, the processor of the MDT must determine the message ID number of the received message—*e.g.*, message ID number 7102—and match that message ID number to the stored message ID number of the associated response message—*e.g.*, message ID number 7202.”).

For the reasons set forth above, we are persuaded that we misapprehended Petitioner’s challenge to independent claims 1, 7, and 12. Accordingly, Petitioner’s Request is *granted*.

Below, we consider anew Petitioner’s challenge to claims 1–4, 6–9, 11, 12, and 15 of the ’308 patent.

message based on which one of the ‘formatted messages’ was received.” Req. Reh’g 12 (citing Dec. 29–30). As we understand this argument, even if Coffee does not copy information from other formatted messages into responses, the copying of information from 7102 to 7202 is sufficient to satisfy the “based on” recitation in the claims. Petitioner’s argument is persuasive on this record, although neither party appears to have briefed this particular issue prior to Petitioner’s Rehearing Request.

IV. ANALYSIS

A. The Asserted Grounds of Unpatentability and Declaration Evidence

Petitioner challenges the patentability of claims 1–4, 6–9, 11, 12, and 15 of the '308 patent on the following grounds:

Claim(s) Challenged	35 U.S.C. §³	Reference(s)/Basis
1–4, 6–9, 11, 12, 15 ⁴	102(e), 103(a)	Coffee
1–4, 7–9, 12	103(a)	Coffee, Heijden ⁵

Pet. 2. Petitioner supports its challenge with a Declaration by Scott Andrews (Ex. 1003, “the Andrews Declaration”).

B. The '308 Patent

The '308 patent is directed to “text-based communications” and more particularly to “providing a method and apparatus for automatically entering information into pre-formatted messages in a communication terminal.”

Ex. 1001, 1:7–11. The '308 patent explains that traditional text-based communications between a dispatch station and a vehicle operator have

³ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102 and 103 that became effective on March 16, 2013. Because the '308 patent has an effective filing date before March 16, 2013, we apply the pre-AIA versions of the statutory bases for unpatentability.

⁴ Petitioner’s listing of grounds does not include claim 4 as challenged in what it refers to as “Ground 1A” based on Coffee under §§ 102 and/or 103, but Petitioner’s Ground 1A heading and the discussion that follows includes claim 4. *Compare* Pet. 2 (Petitioner’s grounds listing), *with id.* at 25 (Ground 1A heading), 43–47 (discussing claim 4). Accordingly, we understand that Petitioner’s first ground includes claim 4.

⁵ U.S. Patent No. 6,880,016 B1, issued April 12, 2005 (Ex. 1006, “Heijden”).

several disadvantages, particularly when considering response messages (i.e., messages sent by a vehicle operator in response to messages from a dispatch station). *Id.* at 2:21–29. In particular, the '308 patent indicates that manually entering information (a) may lead to errors in the entries and (b) is a slow process, which can delay the vehicle operator from transporting goods as quickly as possible. *Id.* The '308 patent states that “[w]hat is needed is a method and apparatus for allowing information to be entered quickly into such response messages to minimize the chances of error and to reduce the vehicle operator’s time spent sending response messages.” *Id.* at 30–33.

Figure 1 is reproduced below:

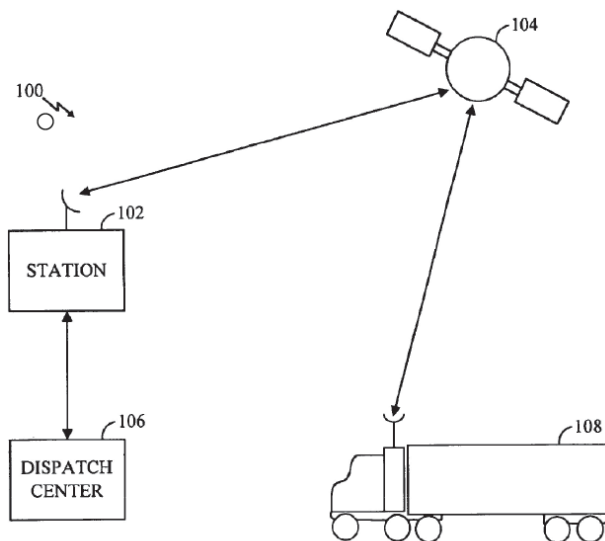


FIG. 1

Figure 1 of the '308 patent “illustrates a communication system 100 in which the method and apparatus for automatically entering information into formatted messages is used.” Ex. 1001, 3:36–38; *see id.* at 3:1–3. The '308 patent explains that “[d]ispatch center 106 and vehicle 108 are capable of communication with each other via central station 102 and satellite 104.” *Id.* at 3:38–40. “In one embodiment, vehicle 108 is a commercial trucking

vehicle having a mobile communications terminal (MCT) mounted in a tractor or cab of the vehicle, not shown [in Figure 1].” *Id.* at 3:50–52. The ’308 patent states, “[t]he MCT is capable of respectively transmitting and receiving communication signals to and from central station 102 via data satellite 104.” *Id.* at 3:52–55.

The ’308 patent explains the following regarding messages transmitted between the MCT and the central station:

Information transmitted between the MCT and central station 102 is accomplished using formatted messages, otherwise known as “macro” messages, or pre-formatted messages. Formatted messages are useful because they minimize the amount of information being transmitted, thus reducing communication costs. Cost savings are achieved by transmitted only pertinent data, without sending “overhead” information.

Ex. 1001, 3:59–66. Figure 2 is reproduced below:

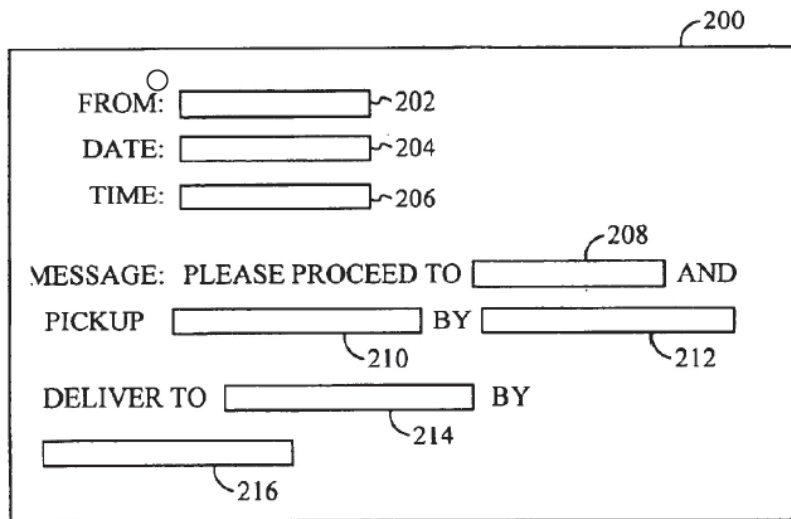


FIG. 2

Figure 2 of the ’308 patent “illustrates one embodiment of a formatted message 200 which instructs vehicle 108 to pick up goods at one location and deliver the goods to a second location within given time constraints.”

Id. at 4:1–4; *see id.* at 3:4–6. The '308 patent states that the type of message shown in Figure 2 is “typically known in the transportation industry as a ‘load assignment’ message.” *Id.* at 4:4–5.

The '308 patent describes the following regarding “formatted message 200”:

Formatted message 200 comprises information fields 202 through 216. When a formatted message is transmitted, only the information contained in the information fields, plus some overhead information, is transmitted. The other information in the formatted message 200 is not transmitted, for example, the words “From”, “Date:”, “Time:”, “Message: Please proceed to”, “and pick up”, “by”, . . . “Deliver to”, . . . [and] “by” When formatted message 200 is created at, for example, central station 102, an operator first chooses which formatted message to send to vehicle 108 from the total number of formatted messages which are already defined. In this example, the operator chooses to send a load assignment message, which has been predefined as having a message identification code of “1”. After choosing formatted message 200, the operator then enters information into the information fields 202 through 216.

Ex. 1001, 4:11–26. The '308 patent explains that a variety of formatted messages can be defined that allow vehicle 108 to transmit status and operational information to central station 102, including “message acknowledgments, vehicle location, speed, and direction, engine characteristics, arrival and departure notifications, and so on.” *Id.* at 4:46–51. Each predefined, formatted message is assigned “a unique message identification code for identifying the type of formatted message. For example, formatted message 200 could be given a message identification code of ‘1’, while another formatted message instructing vehicle 108 to report its present location could be given a message identification code of ‘2’.” *Id.* at 4:53–60.

The '308 patent explains the following regarding the message identification code:

The message identification code is used by central station 102 and vehicle 108 to determine which type of formatted message is being received so that it can be “decoded” correctly. For example, when a formatted message having a message identification code of “1” is transmitted to vehicle 108, only the message identification code and the information fields are sent. This information is received by a processor onboard vehicle 108 that determines that it is a load assignment message based on the message identification code, and that the received information is in a format in accordance with a predefined “template” stored locally to vehicle 108 (or central station 102, as the case may be). The template comprises information relating to overhead information that is not transmitted, i.e., the words “Message: Please proceed to” and other non-fielded information which comprises a formatted message. The template also contains information relating to each information field. For example, a received message having a message identification code of “1” is defined as a message having 8 information fields 202 through 216, and in one embodiment, a definition of how much information is contained in each field, for example, the number of bits or characters which represent each information field. In another embodiment, the template does not define how much information is contained within each information field.

Using the template information, the received information can then be used to reconstruct the original formatted message and presented to a user at either vehicle 108 or at central station 102.

Ex. 1001, 4:61–5:22.

Figure 3 is reproduced below:

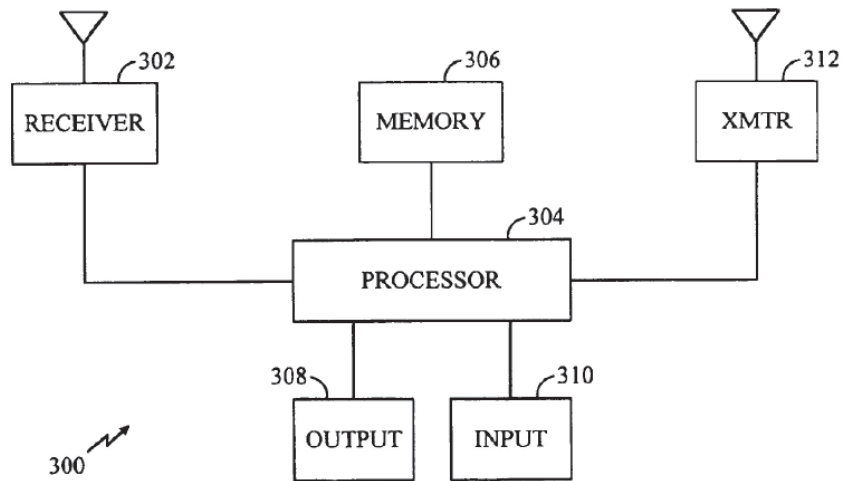


FIG. 3

Figure 3 of the '308 patent “illustrates a functional block diagram of communication terminal 300 used to transmit and receive information relating to formatted messages.” Ex. 1001, 5:23–25; *see id.* at 3:7–9. The functional blocks shown in Figure 3 can be used onboard vehicle 108 or at central station 102. *Id.* at 5:25–28.

The '308 patent explains that “[c]ommunication terminal 300 comprises receiver 302 for receiving information relating to formatted messages.” Ex. 1001, 5:32–33. “The received information, comprising a message identification code and one or more information fields, is provided to processor 304, where it is decoded for presentation to a user of communication terminal 300.” *Id.* at 5:45–48. According to the '308 patent, “[p]rocessor 304 determines the message identification code of the received information and uses a predefined template stored in memory 306 corresponding to the message identification code to reconstruct the formatted message, using information stored in memory 306 and the information fields of the received information.” *Id.* at 5:50–55. “The

reconstructed message may then be stored within memory 306 as a formatted message and/or presented to the user via output device 308.” *Id.* at 5:55–58. And, output device 308 may be a display device, such as a computer screen or monitor. *Id.* at 6:12–13.

Figure 5 is reproduced below:

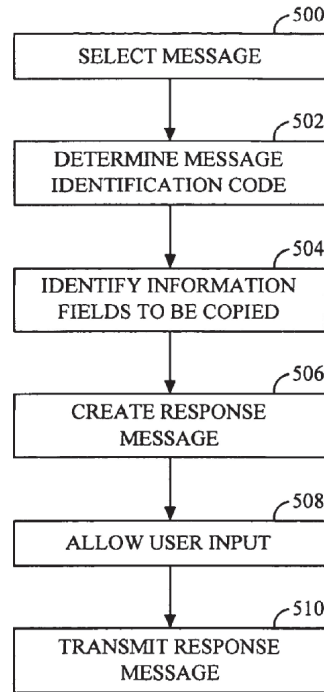


FIG. 5

Figure 5 of the '308 patent “illustrates a flow diagram of one embodiment of a method for automatically entering information into formatted messages in a communication terminal.” Ex. 1001, 7:48–50; *see id.* at 3:15–17. The '308 patent explains the following regarding Figure 5:

In step 500, a formatted message is selected to respond to. The formatted message comprises a message identification code and a number of information fields, the information fields filled in by a sender of the formatted message. The message may be chosen as a message which is currently-displayed by output device 308, or it may be selected from a number of messages stored within a memory of the communication terminal.

In any case, a request to respond to the selected message is entered using input device 310. Processor 304 receives the user's request to respond to the selected formatted message. The request indicates which formatted message the user wishes to respond, either explicitly with an indication of which formatted message to respond, or implicitly by processor 304 knowing which formatted message the user is viewing when the response request is entered.

Processor 304 then determines the message identification code of the formatted message to which a response is desired, as shown in step 502. The message identification code is either provided explicitly along with the request to respond, or it is determined by processor 304 identifying the selected formatted message and determining the message identification code by accessing memory 306. Memory 306 contains information linking each received formatted message with a corresponding message identification code. In step 504, processor 304 identifies information fields from the formatted message to be copied into the response message using field-mapping information stored in memory 306. The field-mapping information comprises a number of stored message identification codes and corresponding field identification information for each stored identification code. The field identification information identifies which information fields from each type of formatted message is copied into information fields of corresponding response messages. . . .

After processor 304 has identified the field-mapping information corresponding to the identified message identification code, a response message is created and provided to output device 308, shown as step 506. Processor 304 copies information fields from the message being responded to into the response message information fields as directed by the field-mapping information corresponding to the message identification code of the formatted message.

In step 508, the user enters information into any information fields that were not filled in automatically by processor 304. Some response messages may not need any user input, while other response messages may rely heavily on user

input. Generally, the user will be able to alter certain information fields, as allowed by the field-mapping information. . . .

After the user has entered information into the response message, the response message is provided to processor 304, where it is then transmitted to central station 102 in step 510. Of course, the entire response message is not transmitted. Processor 304 transmits a message identification code corresponding to the response message type, and each information field. Generally, some kind of formatting information is transmitted as well, such as an indication of stop/start bits between information fields, error correction coding, and so on.

Id. at 7:49–8:57.

C. Illustrative Claim

Claims 1, 7, and 12 are the independent claims challenged in this proceeding. Claim 1 is illustrative of the claimed subject matter and is reproduced below with Petitioner’s bracketing added for reference:

1. [pre] A communication terminal, comprising:

[1a] a receiver for receiving a formatted message out of a number of pre-defined formatted messages, comprising a message identification code and a plurality of information fields;

[1b] an output device for presenting said formatted message to a user of said communication terminal;

[1c] an input device for responding to said formatted message;

[1d] a memory for storing said formatted message and for storing field-mapping information, said field-mapping information for indicating information to be copied from said formatted message to a response message based on which one of said pre-defined formatted messages was received;

[1e1] a processor for creating said response message in response to an indication from said input device of a request to

respond to said formatted message, [1e2] said response message comprising at least one response message information field, [1e3] wherein information from at least one of said plurality of information fields of said formatted message is copied into at least one of said response message information fields based on said field-mapping information; and

[1f] a transmitter for transmitting said information relating to said response message.

Ex. 1001, 9:2–24.

D. Level of Ordinary Skill in the Art

Petitioner, supported by Mr. Andrews’s testimony, proposes that a person of ordinary skill in the art at the time of the invention

would have had at least a Bachelor of Science degree (or equivalent) in electrical engineering, computer engineering, computer science, or a related technical field, and at least 2–3 years of experience in the fields of messaging systems, and wireless communication devices, or an equivalent advanced education in the field of messaging systems, including wireless communication devices.

Pet. 12 (citing Ex. 1003 ¶ 28).

Patent Owner “does not dispute Petitioner’s offered level of ordinary skill in the art” for purposes of this proceeding. Prelim. Resp. 8.

At this stage of the proceeding, we find Petitioner’s proposal consistent with the level of ordinary skill in the art reflected by the ’308 patent and the prior art of record, *see Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978), and, therefore, we adopt Petitioner’s unopposed position as to the level of ordinary skill in the art for purposes of this Decision.

V. CLAIM CONSTRUCTION

In this *inter partes* review, claims are construed using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b) (2019). The claim construction standard includes construing claims in accordance with the ordinary and customary meaning of such claims as understood by one of ordinary skill in the art at the time of the invention. *See id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc). In construing claims in accordance with their ordinary and customary meaning, we take into account the specification and prosecution history. *Phillips*, 415 F.3d at 1315–17.

Additionally, only terms that are in controversy need to be construed, and these need be construed only to the extent necessary to resolve the controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”); *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs.* in the context of an *inter partes* review).

The only dispute pertaining to claim construction at this stage of the proceeding is whether the phrase “a process for creating said response message,” recited in claim 1, is governed by 35 U.S.C. § 112 ¶ 6.⁶ Petitioner

⁶ As noted above, Petitioner raises a second claim construction issue in its Rehearing Request. *See* Req. Reh’g 12–15 (asserting that the claims require only *one instance* of copying information from a formatted message to a response message based on which formatted message was received). Petitioner did not raise this issue in the Petition, Patent Owner has not had an

contends that the phrase should be interpreted as a means-plus-function limitation, whereas Patent Owner contends that it should not. *Compare* Pet. 2–7 (advocating for a means-plus-function construction), *with* Prelim. Resp. 9–11 (advocating for an ordinary and customary meaning). At this stage of the proceeding, the dispute between the parties regarding the construction of this claim phrase does not impact our Decision. Accordingly, we need not construe expressly any claim terms for the purpose of this Decision.

VI. ANALYSIS

A. *Legal Standards – Anticipation*

“[A] claim is anticipated ‘if each and every limitation is found expressly or inherently in a single prior art reference.’” *King Pharm., Inc. v. Eon Labs., Inc.*, 616 F.3d 1267, 1274 (Fed. Cir. 2010) (quoting *Celeritas Techs., Ltd. v. Rockwell Int’l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998)). Anticipation is a question of fact, *In re Gleave*, 560 F.3d 1331, 1334–35 (Fed. Cir. 2009), assessed from the perspective of one of ordinary skill in the art, *see Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368 (Fed. Cir. 2003) (“the dispositive question regarding anticipation [i]s whether *one skilled in the art* would reasonably understand or infer from the [prior art reference’s] teaching that every claim element was disclosed in that single reference” (alteration in original) (quotation omitted)).

opportunity to respond to Petitioner’s Rehearing Request, and it is not clear that there is a present controversy between the parties with respect to the meaning of the claim in this regard.

B. Legal Standards – Obviousness

The U.S. Supreme Court set forth the framework for applying the statutory language of 35 U.S.C. § 103 in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966):

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

The Supreme Court explained in *KSR International Co. v. Teleflex Inc.* that

[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit.

550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)).

“Whether an ordinarily skilled artisan would have been motivated to modify the teachings of a reference is a question of fact.” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1327 (Fed. Cir. 2016) (citations omitted).

“[W]here a party argues a skilled artisan would have been motivated to

combine references, it must show the artisan ‘would have had a reasonable expectation of success from doing so.’” *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1360–61 (Fed. Cir. 2017) (quoting *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1068–69 (Fed. Cir. 2012)).

C. Anticipation by and/or Obviousness over Coffee

Petitioner contends that Coffee discloses each and every element of claims 1–4, 6–9, 11, 12, and 15 and/or Coffee would have rendered the subject matter of claims 1–4, 6–9, 11, 12, and 15 obvious to one of ordinary skill in the art at the time of the invention. Pet. 25–62. We address Petitioner’s contentions as to anticipation together with Petitioner’s contentions as to obviousness with specific delineation of each.

1. Level of Ordinary Skill in the Art

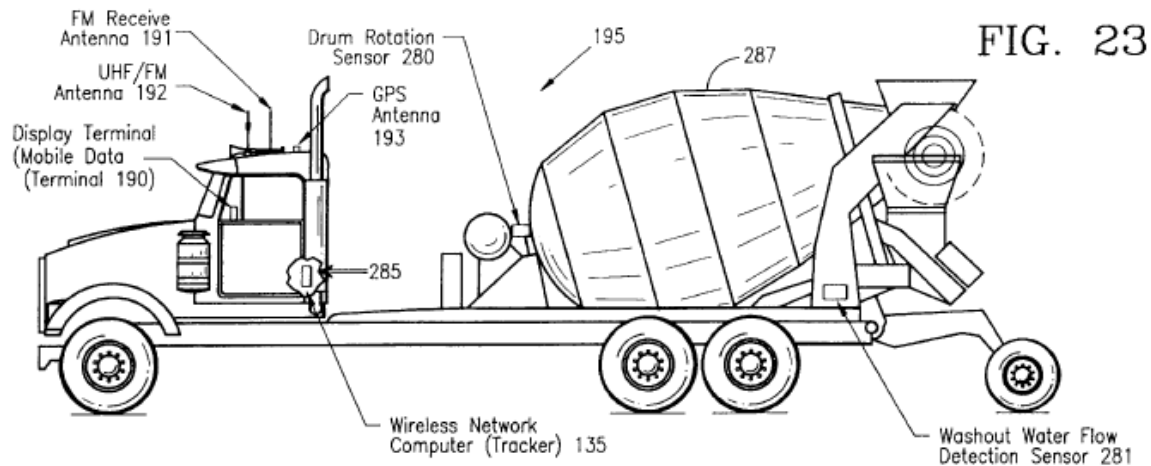
As noted above, and for the reasons discussed therein, we adopt Petitioner’s proposed definition for the level of ordinary skill in the art. *See supra* § IV.D.

2. Scope and Content of the Prior Art – Coffee

Coffee is directed to “asset management systems, and more particularly to a system for tracking the real-time location and status of vehicles of a fleet, and for communicating between the vehicles and a dispatcher or expediter in the fleet offices.” Ex. 1005, 1:6–10. Coffee explains that “[t]he primary goal of the fleet management system . . . is to provide fleet management information to customers (i.e., the owners, operators, subscribers, or users of the fleet . . .) to enable them to manage their assets more profitably.” *Id.* at 2:38–50. Coffee provides several means to accomplish this goal by: (1) giving a fleet operator the capability to locate

vehicles of the fleet in real-time; (2) allowing the operator to communicate with those vehicles over a very efficient and reliable wireless network; (3) enabling the operator to receive timely, accurate data regarding what each vehicle of the fleet is doing; and (4) providing the operator with an ability to correlate the position and messaging information generated by the system with the operator's other management information systems to provide an integrated information source for improved fleet business management. *Id.* at 2:50–64.

Figure 23 is reproduced below:



Coffee's Figure 23 "illustrates an exemplary placement of the tracker, a Mobile Data Terminal (MDT) and antennas on a typical fleet vehicle, the vehicle being further equipped for accommodating various sensors for event reporting." *Id.* at 8:1–4. Coffee explains the following regarding the MDT:

The MDT 190 serves as a control and display unit (CDU) for the tracker 135 (FIGS. 23, 26), primarily for the convenience of the vehicle operator.

The MDT is a small conventional programmable computer similar to but generally smaller than a notebook PC (with customer-specific software) and display terminal with liquid crystal display (LCD), keypad, associated memory, and internal (integrated) circuitry, to enable display of text and other

data, and to enable the vehicle operator to respond to text paging messages and to enter other data to be transmitted to the dispatcher. MDT 190 and tracker 135 communicate over a balanced, differential, asynchronous serial interface, which, in the exemplary embodiment, uses a Texas Instruments (TI) SN65C1167NS dual differential driver/receiver interface circuit.

....

In keeping with NavCore and other message numbering conventions, each interface is identified by a different thousands place in the message ID number. The MDT-tracker interface uses 7000 as the interface identifier. Messages transmitted by tracker 135 use ID numbers beginning with 7100 and messages received by it use ID numbers beginning with 7200. In the exemplary embodiment, the message IDs are:

For tracker to MDT:

- 7101 Navigation Data
- 7102 Received Message Data
- 7103 Received User Data
- 7104 Available Message Data
- 7106 User Data Message List

For MDT to tracker:

- 7201 Data Request
- 7202 Text Message Response
- 7203 User Data Output
- 7204 Request Available Message Data
- 7205 Request Message
- 7206 Request User Data Message List

When requested by MDT 190 (by action of the vehicle operator), tracker 135 sends navigation data (message 7201, Table 57, Appendix B) including current position, velocity, and time at approximately 1 Hz to the MDT. When the tracker receives a “Request Message” (7205, Table 66) from the MDT,

it sends the data for the requested text message to the MDT using a “Received Message Data” packet (7102, Table 58). The latter either contains the full text of the received message or an ID number indicating a “canned” text to display. A response set is sent along with the text message, containing a unique set of text items that can be selected by the vehicle operator in response to the received message.

Each message has an identifier, or issue of data (IOD), a rollover counter, to differentiate messages within the system and to associate messages with their responses. When the operator selects a response to a message (e.g., an inquiry from the dispatcher), that message’s IOD is sent back to the tracker with the response in message 7202. The response is selected using arrow keys on the face (keypad) of the MDT.

Id. at 54:66–55:67.

Coffee explains that a “pre-defined message definition” packet provides trackers with a text message that should be associated with a specified “pre-defined message ID.” Ex. 1005, 19:64–67. “Trackers receiving this message store the pre-defined message definition . . . [and] [t]his stored association is then used to display the appropriate message upon receipt of a ‘Pre-Defined Message Packet.’” *Id.* at 20:4–9. The packet “allows a shorter message format for ‘canned’ user messages that are frequently transmitted by an individual customer. Since the trackers know the text of these messages a priori, only a message ID and a 16-bit cyclic redundancy check (CRC) need be sent by the NDC.” *Id.* at 20:9–13. Coffee states that “[t]he ID identifies the message and the CRC allows the tracker to determine whether the text matches the CRC of the known pre-defined message.” *Id.* at 20:13–15.

Coffee further explains the following regarding receiving and responding to messages:

In the “Received Message Data” (Table 58), the Message Type indicates whether the message contains a canned or fall [sic] text message. If the message is canned, the next byte contains the ID number of the message; otherwise, it contains the length in bytes of the received message text. The next 2 bytes contain the IOD number of the received text message and the user response if a message has already been sent. The next 3 words indicate the date and time the message was received. The next word contains the number of valid responses in the response list. Next is the list of 4 text responses to be displayed above softkeys of the MDT. Unused response strings are zero filled. If the message is full text, the characters of the message follow in order. . . .

. . . .

Tracker 135 is programmed with a set of canned “User Data” messages, a list of which (message 7106, Table 61) may be requested for display on the MDT by the driver’s sending “Request User Data Message List” message (7206, Table 67). Upon subsequent receipt of a “Request Message” for a specific “User Data” message, the tracker will provide the text of that requested message to the MDT. . . .

. . . .

When the vehicle operator selects a response to a received text message, the MDT sends that response to the tracker using a Text Message Response message (7202, Table 63) which contains the IOD of the message being answered and the numeric response value.

The tracker is used to send customer-defined data to the NDC

Ex. 1005, 56:5–57:2.

Coffee's Tables 58 and 63, described in detail above, are reproduced below:

TABLE 58				
<u>Received Message Data (7102)</u>				
Word Number	Description	Type	Units/LSB	Range
1-5	Header			
6 (lsb)	Message Type 1 = canned, 2 = full text	uchar		
6 (msb)	Canned ID/Text Length (L)	uchar		
7 (lsb)	IOD	uchar		0-255
7 (msb)	User Response	uchar		0-4
8	Year	ushort		
9 (lsb)	Month	uchar		1-12
9 (msb)	Day	uchar		1-31
10 (lsb)	Hour	uchar		0-23
10 (msb)	Minute	uchar		0-59
11 (lsb)	Number of valid responses	uchar		0-4
11 (msb)	Spare	uchar		
12-16	Response 1 Text	char		
17-21	Response 2 Text	char		
22-26	Response 3 Text	char		
27-31	Response 4 Text	char		
next L/2	Text if type = 2, padded with 0 in last byte if L is odd	char		

TABLE 63				
<u>Text Message Response (7202)</u>				
Word Number	Description	Type	Units/LSB	Range
1-5	Header			
6 (lsb)	IOD	uchar		0-255
6 (msb)	Response	ushort		0-7
7	Data Checksum			

Id. at 101:14-35 (Table 58), 102:44-54 (Table 63). Coffee's Table 58 shows "Received Message Data" 7102 (Ex. 1005, 55:54-55), and Coffee's Table 63 shows "Text Message Response" 7202 (*id.* at 56:65).

3. *Differences Between the Prior Art and the Claims; Motivation to Modify*

a. *Independent Claim 1*

i. *1pre and Limitations 1a-1c*

Petitioner contends that Coffee discloses a "communication terminal," as recited in 1pre, by disclosing a mobile data terminal (MDT) that resides in the fleet vehicles. Pet. 25-26 (citing Ex. 1003 ¶¶ 76-78; Ex. 1005, 1:6-10, 15:33-37, 45:25-34, 54:66-55:9, Fig. 23).

Petitioner asserts Coffee discloses "a receiver for receiving a formatted message out of a number of pre-defined formatted messages, comprising a message identification code and a plurality of information fields," as recited in limitation 1a, by disclosing that a tracker includes two

receivers 207, 208 and that the MDT includes a receiver for receiving messages from the tracker. Pet. 26–27 (citing Ex. 1003 ¶¶ 79–82; Ex. 1005, 45:29–34, 45:39–44, 46:11–16, 55:9–13, Fig. 24). Petitioner contends that Coffee’s system uses a predefined message packet, which, when received, displays the appropriate message (i.e., a formatted message). *Id.* at 27 (citations omitted). Petitioner asserts that “[t]his message configuration ‘allows a shorter message format for ‘canned’ user messages that are frequently transmitted by an individual customer.’” *Id.* (citations omitted). Petitioner argues that one of ordinary skill in the art “would have understood that Coffee’s predefined message packets, in which some of the data is not sent in the message, but is instead provided at the receiver based on the stored ‘pre-defined message definition’ are equivalent to the claimed ‘pre-defined formatted messages.’” *Id.* at 27–28 (citing Ex. 1003 ¶ 84).

Petitioner contends that each message exchanged between Coffee’s tracker and MDT is a formatted message that has a four digit message ID number (i.e., the message identification code), where the ID number identifies the interface from which the message is sent and the type of message transmitted from the tracker to the MDT or from the MDT to the tracker. Pet. 28 (citing Ex. 1003 ¶ 85; Ex. 1005, 55:27–34). Petitioner asserts that messages sent between the tracker and MDT include multiple information fields, for example a header, an ID number indicating a canned text to display or the full text of the received message, the issue of data (IOD), and a set of user selectable responses. *Id.* at 29 (citing Ex. 1003 ¶ 88; Ex. 1005, 55:55–60, Table 58). Petitioner points to Table 58 as showing “an exemplary configuration of a ‘Received Message Data’ packet. *Id.* (citing

Ex. 1003 ¶ 88; Ex. 1005, Table 58). Petitioner includes the following annotated version of Coffee’s Table 58:

TABLE 58

Message Identification Code

Received Message Data 7102

Information Fields

Word Number	Description	Type	Units/LSB	Range
1-5	Header			
6 (lsb)	Message Type 1 = canned, 2 = full text	uchar		
6 (msb)	Canned ID/Text Length (L)	uchar		
7 (lsb)	IOD	uchar		0-255
7 (msb)	User Response	uchar		0-4
8	Year	ushort		
9 (lsb)	Month	uchar		1-12
9 (msb)	Day	uchar		1-31
10 (lsb)	Hour	uchar		0-23
10 (msb)	Minute	uchar		0-59
11 (lsb)	Number of valid responses	uchar		0-4
11 (msb)	Spare	uchar		
12-16	Response 1 Text	char		
17-21	Response 2 Text	char		
22-26	Response 3 Text	char		
27-31	Response 4 Text	char		
next L/2	Text if type = 2, padded with 0 in last byte if L is odd	char		

Pet. 32. Coffee’s Table 58 illustrates a received message data packet, which Petitioner annotated to add (1) the phrase “Information Fields” with an arrow pointing to highlighted portions identifying the “Header,” “IOD,” “Response 1 Text,” “Response 2 Text,” “Response 3 Text,” and “Response 4 Text,” and (2) the phrase “Message Identification Code” with an arrow pointing to “7102.” *Id.*

Petitioner explains that “[t]he ‘Message Type’ in Table 58 indicates whether the message is a full text message, or points to ‘canned’ text.” Pet. 30 (citing Ex. 1003 ¶ 89; Ex. 1005, 55:55–57, Table 58). Petitioner states that “[a] set of ‘canned’ messages (*i.e.*, pre-defined message content) is stored in memory of the tracker” and “[e]ach message also includes a unique identifier, the issue of data (IOD), to differentiate messages within the system, and to allow the recipient of a response message to associate that

response with the original request message.” *Id.* (citing Ex. 1003 ¶¶ 90–91; Ex. 1005, 56:45–49, 55:61–63, Tables 58, 61, 63).

Petitioner contends that Coffee discloses “an output device for presenting said formatted message to a user of said communication terminal,” as recited in claim 1, by disclosing that the MDT includes a display for presenting text and other data to the vehicle operator. Pet. 30 (citing Ex. 1003 ¶ 93; Ex. 1005, 54:66–55:9). Additionally, Petitioner asserts that Coffee discloses “an input device for responding to said formatted message,” as recited in claim 1, by disclosing that the MDT includes a keypad, which allows the vehicle operator to respond to received messages and to enter other data to be transmitted to the dispatcher. *Id.* (citing Ex. 1003 ¶ 95; Ex. 1005, 54:66–55:9).

In the Preliminary Response, Patent Owner does not contest that Coffee discloses 1pre and limitations 1a–1c. *See generally* Prelim. Resp.

Based on the present record, including the arguments and evidence provided by Petitioner, we find that Coffee discloses 1pre⁷ and limitations 1a–1c.

ii. Limitation 1d

Petitioner asserts that Coffee “discloses and/or renders obvious” “a memory for storing said formatted message and for storing field-mapping information, said field-mapping information for indicating information to be copied from said formatted message to a response message based on which one of said pre-defined formatted messages was received,” as recited in

⁷ Because we find that Coffee discloses the preamble of claim 1, we need not determine whether the preamble is limiting.

claim 1, by disclosing that the MDT “includes ‘memory, and internal (integrated) circuitry, [] to enable the vehicle operator to respond to text paging messages and to enter other data to be transmitted to the dispatcher.” Pet. 31 (citing Ex. 1003 ¶ 98; Ex. 1005, 54:66–55:9) (alteration by Petitioner). Petitioner contends that “the MDT stores the received message while it is displayed to the operator.” *Id.* (citing Ex. 1003 ¶ 98; Ex. 1005, 56:1–3).

Petitioner asserts that Coffee’s received message also includes information fields corresponding to possible responses from which the user can select a response, as shown in Table 58 reproduced above. Pet. 31 (citing Ex. 1003 ¶ 99; Ex. 1005, 55:55–60). Petitioner contends that “[w]hen the vehicle operator enters a response to the received message with the message ID number 7102, the MDT transmits a response message with the message ID number 7202 back to the tracker.” *Id.* at 32 (citing Ex. 1003 ¶ 100; Ex. 1005, 55:35–47, 56:63–67). Petitioner further asserts that the response message (shown in Table 63) includes “some of the same information as the received message” (shown in Table 58), “such as header information, the IOD, and the response selected by the operator.” *Id.* (citing Ex. 1003 ¶¶ 100–101; Ex. 1005, 56:63–67, Tables 58, 63). Petitioner includes the following side-by-side annotated versions of Coffee’s Tables 58 and 63:

TABLE 58					TABLE 63				
Received Message Data (7102)					Text Message Response (7202)				
Word Number	Description	Type	Units/LSB	Range	Word Number	Description	Type	Units/LSB	Range
1-5	Header				1-5	Header			
6 (lsb)	Message Type 1 = canned, 2 = full text	uchar			6 (lsb)	IOD	uchar		0-255
6 (msb)	Canned ID/Text Length (L)	uchar			6 (msb)	Response	ushort		0-7
7 (lsb)	IOD	uchar		0-255	7	Data Checksum			
7 (msb)	User Response	uchar		0-4					
8	Year	ushort							
9 (lsb)	Month	uchar		1-12					
9 (msb)	Day	uchar		1-31					
10 (lsb)	Hour	uchar		0-23					
10 (msb)	Minute	uchar		0-59					
11 (lsb)	Number of valid responses	uchar		0-4					
11 (msb)	Spare	uchar							
12-16	Response 1 Text	char							
17-21	Response 2 Text	char							
22-26	Response 3 Text	char							
27-31	Response 4 Text	char							
next L/2	Text if type = 2, padded with 0 in last byte if L is odd	char							

Pet. 33. Table 58, identifying the received message data 7102, and Table 63, identifying the text message response 7202, are shown above, including Petitioner’s annotations which place red boxes around the “Header,” “IOD,” and four “Response” “Text[s]” of Table 58 and the header, IOD, and Response of Table 63. *Id.* at 33 (citing Ex. 1003 ¶ 101; Ex. 1005, Tables 58, 63).

Petitioner asserts that “[a]t least some of the information included with the received formatted message (e.g., header, IOD, and selected response) is copied over from the received message to the response message.” Pet. 33 (citing Ex. 1003 ¶ 102). Petitioner contends that one of ordinary skill in the art “would have understood that this correspondence between fields in the request message and fields in the response message is ‘field-mapping.’” *Id.* (citing Ex. 1003 ¶ 102).

To the extent not explicitly disclosed, Petitioner also asserts Coffee inherently discloses certain elements of limitation 1d. Pet. 33. Specifically, Petitioner asserts that one of ordinary skill in the art would have understood: (1) that, in the context of Tables 58 and 63, “the inclusion of field names of

the received message in the response message is based on field mapping information” and (2) “that, in order to implement this correspondence between the fields of the request message and the fields of the response message, Coffee’s system must inherently use ‘field-mapping information’ to know which field from the received message is to be copied into which corresponding field in the response message.” *Id.* at 33–34 (citing Ex. 1003 ¶ 103). Petitioner contends that “[w]ithout such field-mapping information, the system would not be able to copy over information from the received message into the correct fields of the response message” and “would risk operator error in hunting down and correctly copying over the header, IOD, and response fields so the information in the response message would be correctly matched with the information in the received message.” *Id.* at 34 (citing Ex. 1003 ¶ 103). Petitioner asserts that “[i]t is not reasonable to imagine that a [person of ordinary skill in the art] at the time of the invention would have left such a tedious task, routinely performed on a computer, to a human.” *Id.* (citing Ex. 1003 ¶ 103).

Additionally, with respect to whether Coffee’s MDT includes a memory that stores field-mapping information, Petitioner contends:

To the extent that Coffee is deemed not to explicitly or inherently disclose that “field-mapping information” is stored on the MDT, it would have been obvious to a [person of ordinary skill in the art] to include “field-mapping information” with the “Received Message Data” packet (Table 58), the “Text Message Response” (Table 63), and/or data “to enable the vehicle operator to respond to text paging messages,” all of which are stored, at least temporarily, in memory of the MDT.

Pet. 34 (citing Ex. 1003 ¶ 104; Ex. 1005, 54:66–55:9). Further, Petitioner asserts that one of ordinary skill in the art would have understood that field-mapping information “would necessarily need to be available at the MDT to

generate a response message that includes at least some of the same information as was included with the received message.” *Id.* (citing Ex. 1003 ¶ 105). Petitioner contends that “without such field-mapping information, information from the received message could not be copied to appropriate corresponding fields in the response message because the MDT would have no idea which copied information goes where in the response message.” *Id.* at 34–35 (citing Ex. 1003 ¶ 105).

Patent Owner raises several arguments in response to Petitioner’s discussion of limitation 1d. We address each in turn.

First, Patent Owner contends that Petitioner fails to show Coffee discloses and/or renders obvious “field-mapping information for indicating information to be copied from said formatted message to a response message based on which one of said pre-defined formatted messages was received.” Prelim. Resp. 16; *see id.* at 15–20. Patent Owner asserts that “[w]hile Petitioner identifies information that is the same in the ‘Received Message Data’ (7102) message and the ‘Text Message Response’ (7202) message, Petitioner never shows that any fields are copied into the response, and there is no disclosure in Coffee stating otherwise.” *Id.* at 16.

Although Coffee does not use the terms “copy” or “copied” in the description of its process, Coffee describes steps that support Petitioner’s argument that Coffee copies the IOD.⁸ In describing the MDT, Coffee explicitly describes certain actions as those of the vehicle operator, for example, “select[ing] a response to the received message.” Ex. 1005, 55:63–

⁸ We focus on the IOD because, as discussed *infra*, we do not find, on this record, that Petitioner establishes that Coffee copies the “Header” or “Response” fields. *See infra* § VI.C.3.a.v.

64 (“When the operator selects a response to a message”). In contrast, however, when describing that the formatted message’s IOD is sent back to the tracker in the response message, Coffee does not attribute that action to the vehicle operator. *See* Ex. 1005, 63–66 (“When the operator selects a response to a message (e.g., an inquiry from the dispatcher), that message’s IOD is sent back to the tracker with the response in message 7202.”), 56:63–67 (“When the vehicle operator selects a response to a received text, the MDT sends that response to the tracker using a Text Message Response message (7202, Table 63) which contains the IOD of the message being answered and the numeric response value.”). On the preliminary record before us, these descriptions by Coffee support Petitioner’s argument that Coffee’s system automatically copies the formatted message’s IOD to include it in the response message.

Additionally, our understanding of Coffee is supported by Mr. Andrews’s testimony. Mr. Andrews considered Coffee’s disclosure and opined that, *inter alia*, the IOD was copied from the formatted message to the response message. Ex. 1003 ¶ 102; *see id.* ¶¶ 100–102 (testifying that some information included with the received formatted message is copied over from the formatted request message to the response message).

Accordingly, on the present record and at this stage of the proceeding, Patent Owner’s first argument does not establish sufficiently that the Petition is deficient.

Second, Patent Owner contends, “Petitioner entirely ignores that the claims require the ‘field-mapping’ to be ‘based on which one of said pre-defined formatted messages was received.’ Coffee explains that the contents of the ‘Text Message Response (7202)’ are the same *regardless* of

‘which one of said pre-defined formatted messages was received.’” Prelim. Resp. 16.

We initially found this argument persuasive in our Decision, but, for the reasons discussed above, that was based on a misunderstanding of Petitioner’s position. *See supra* § III. On the present record and under the burden of proof required for institution, we find persuasive Petitioner’s argument that one of ordinary skill in the art would understand the correspondence between fields in received message data 7102 (where 7102 is one of a number of pre-defined formatted messages (e.g., 7101, 7102, 7104, 7106)) and text message response 7202, and specifically, the copying of the IOD, to be “field-mapping” inherently based on field-mapping information. Pet. 33–34 (citing Ex. 1003 ¶¶ 102–103). In particular, Petitioner’s argument and evidence is sufficient for this stage of the proceeding to establish: (a) Coffee automatically copies the formatted message’s IOD from received message data 7102 to include it in the text message response 7202, for the reasons discussed above, (b) Coffee performs this copying inherently based on field-mapping information (*id.* at 33–35), and (c) because Coffee’s MDT performs this action, one of ordinary skill in the art “would have understood that ‘field-mapping information’ would necessarily need to be available at the MDT to generate a response message that includes at least some of the same information as was included with the received message” because “without such field-mapping information, information from the received message could not be copied to appropriate corresponding fields in the response message because the MDT

would have no idea which copied information goes where in the response message” (*id.* at 34–45 (citing Ex. 1003 ¶ 105)).⁹

iii. Limitation 1e1

Petitioner asserts that Coffee “discloses and/or renders obvious” “a processor for creating said response message in response to an indication from said input device of a request to respond to said formatted message,” as recited in claim 1, by disclosing an MDT that “is a programmable computer that includes internal (integrated) circuitry (*e.g.* a processor) ‘to enable the vehicle operator to respond to text paging messages and to enter other data to be transmitted to the dispatcher.’” Pet. 35 (citing Ex. 1003 ¶ 108; Ex. 1005, 54:66–55:9).

Petitioner contends that “[a] message received at the MDT (the ‘formatted message’), for example, with the message ID number 7102, includes a response set specific to the received message.” Pet. 35 (citing Ex. 1003 ¶¶ 109–10; Ex. 1005, 55:55–67, Table 58). Petitioner asserts the

⁹ As noted above, Petitioner also contends it would have been obvious to store field-mapping information on the MDT “to enable the vehicle operator to respond to text paging messages.” Pet. 34 (citing Ex. 1003 ¶ 104; Ex. 1005, 54:66–55:9). Patent Owner contends that “Petitioner makes a series of ‘obviousness’ arguments which seem to argue certain claim limitations are obviously disclosed by Coffee, rather than specifying why it would be obvious to modify Coffee to include the claimed features.” Prelim. Resp. 24 n.1 (citing Pet. 34–35, 38–39). Although we have not relied specifically upon Petitioner’s proposed modification to Coffee in this Decision, we note that, on the present record, Petitioner has provided a reason as to why one of ordinary skill in the art would have modified Coffee to store field-mapping information on the MDT—“to enable the vehicle operator to respond to text paging messages.” *See* Pet. 34 (citing Ex. 1003 ¶ 103; Ex. 1005, 54:66–55:9).

response set “includes ‘a unique set of text items that can be selected by the vehicle operator in response to the received message,’ for example, by using arrow keys on the face (keypad) of the MDT (*i.e.*, an indication to respond to the received message from the ‘input device[.]’).” *Id.* at 35–36 (citing Ex. 1003 ¶¶ 109–10; Ex. 1005, 55:55–67, Table 58). Petitioner contends that “[u]pon the vehicle operator’s input, the MDT generates a response message with the message ID number 7202.” *Id.* (citing Ex. 1003 ¶¶ 109–10; Ex. 1005, 55:55–67, Table 58).

In the Preliminary Response, Patent Owner does not contest that Coffee discloses limitation 1e1. *See generally* Prelim. Resp.

Based on the present record, including the arguments and evidence provided by Petitioner, we find that Coffee discloses limitation 1e1.

iv. Limitation 1e2

Petitioner asserts that Coffee “discloses and/or renders obvious” “said response message comprising at least one response message information field” as recited in claim 1, by disclosing a generated response message that includes “information such as the IOD, the header, and the response selected by the vehicle operator (*i.e.*, response message information fields[.]”).” Pet. 36 (citing Ex. 1003 ¶ 112; Ex. 1005, 55:61–67). Petitioner asserts that Coffee’s Table 63 “shows an exemplary configuration of a response message.” *Id.* Petitioner includes the following annotated version of Coffee’s Table 63:

TABLE 63 Response Message Identification Code

Text Message Response (7202)					
Word Number	Description	Type	Units/ LSB	Range	
1-5	Header				
6 (lsb)	IOD	uchar		0-255	
6 (msb)	Response	ushort		0-7	
7	Data Checksum				

Pet. 36. Table 63, identifying the text message response 7202, is shown above, including Petitioner’s annotations which place red boxes around the header, IOD, and Response of Table 63. *Id.* at 36 (citing Ex. 1003 ¶ 113; Ex. 1005, Table 63).

In the Preliminary Response, Patent Owner does not contest that Coffee discloses limitation 1e2. *See generally* Prelim. Resp.

Based on the present record, including the arguments and evidence provided by Petitioner, we find that Coffee discloses limitation 1e2.

v. Limitation 1e3

Petitioner contends that Coffee “discloses and/or renders obvious” “wherein information from at least one of said plurality of information fields of said formatted message is copied into at least one of said response message information fields based on said field-mapping information.”

Pet. 36–39. This limitation is similar in some respects to certain elements of limitation 1d. *Compare* Ex. 1001, 9:9–14 (limitation 1d), *with id.* at 9:19–23 (limitation 1e3). Petitioner asserts “[t]he message received at the MDT with the message ID number 7102 (the ‘formatted message’), includes information fields such as header information, the IOD, and a set of responses specific to the received message.” *Id.* at 36–37 (citing Ex. 1003 ¶ 114; Ex. 1005, 55:55–60, Table 58). Petitioner contends the response

message generated at the MDT with the message ID 7202 “includes the IOD of the received message to associate the response message with the received message, the header, and the response selected by the vehicle operator (*i.e.*, response message information fields[.]” *Id.* at 37 (citing Ex. 1003 ¶ 115; Ex. 1005, 55:61–67, Table 63).

Petitioner contends “[w]hen the vehicle operator responds to a received message (*e.g.*, an inquiry from the dispatcher), the header, the IOD, and the selected response are automatically sent back to the tracker from the MDT.” Pet. 37 (citing Ex. 1003 ¶ 116; Ex. 1005, 55:61–67, Tables 58, 63). Petitioner includes the following side-by-side annotated versions of Coffee’s Tables 58 and 63:

TABLE 58					TABLE 63				
Received Message Data (7102)					Text Message Response (7202)				
Word Number	Description	Type	Units/LSB	Range	Word Number	Description	Type	Units/LSB	Range
1–5	Header				1–5	Header			
6 (lsb)	Message Type 1 = canned, 2 = full text	uchar			6 (lsb)	IOD	uchar		0–255
6 (msb)	Canned ID/Text Length (L)	uchar			6 (msb)	Response	ushort		0–7
7 (lsb)	IOD	uchar		0–255	7	Data Checksum			
7 (msb)	User Response	uchar		0–4					
8	Year	ushort							
9 (lsb)	Month	uchar		1–12					
9 (msb)	Day	uchar		1–31					
10 (lsb)	Hour	uchar		0–23					
10 (msb)	Minute	uchar		0–59					
11 (lsb)	Number of valid responses	uchar		0–4					
11 (msb)	Spare	uchar							
12–16	Response 1 Text	char							
17–21	Response 2 Text	char							
22–26	Response 3 Text	char							
27–31	Response 4 Text	char							
next L/2	Text if type = 2, padded with 0 in last byte if L is odd	char							

Id. Table 58, identifying the received message data 7102, and Table 63, identifying the text message response 7202, are shown above, including Petitioner’s annotations which place red boxes around the header, IOD, and four Response Texts of Table 58 and the header, IOD, and Response of Table 63. *Id.* (citing Ex. 1003 ¶ 117; Ex. 1005, Tables 58, 63). Petitioner contends “[t]hus, Coffee describes copying information from information

fields in the received message into corresponding fields of the response message.” *Id.* at 37–38. Petitioner asserts this disclosure meets this claim limitation because, “if Coffee did not employ such copying, the response message would not automatically include information extracted from the received message.” *Id.* at 38 (citing Ex. 1003 ¶ 118). Petitioner contends that “if the copying were not performed based on field-mapping information, items of information extracted from the received message would not appear in the response message at the correct locations.” *Id.* (citing Ex. 1003 ¶ 118).

Petitioner raises an alternative argument that “[t]o the extent that Coffee is deemed not to explicitly or inherently disclose that information from an information field of a received message is copied to an information field of a response message based on ‘field-mapping information,’ it would have been obvious to a [person of ordinary skill in the art] that the response selected by the vehicle operator in the received message (Table 58) is mapped and copied to the response message (Table 63).” *Id.* (citing Ex. 1003 ¶ 119; Ex. 1005, 55:51–67, 56:63–67). Petitioner asserts that one of ordinary skill in the art: (a) would have understood that “‘field-mapping information’ would necessarily be available at the MDT to generate a response message that includes at least some of the same data as included with the received message”; and (b) would have recognized that “without such field-mapping information, information from the received message could not be copied to appropriate corresponding fields in the response message because the MDT would have no idea which copied information goes where in the response message.” *Id.* (citing Ex. 1003 ¶ 120).

Accordingly, Petitioner contends Coffee teaches or renders obvious limitation 1e3. Pet. 39 (citing Ex. 1003 ¶ 121).¹⁰

Patent Owner contends that Petitioner fails to show Coffee discloses and/or renders obvious that “information is ‘copied’ or ‘filled in’ from a formatted message to a response message.”¹¹ Prelim. Resp. 20–25. Patent Owner contends that Coffee “does not teach or suggest” that the fields “Header,” “IOD,” and “Response” “are copied into a response message, much less that they are copied ‘based on said field-mapping information.’” *Id.* at 20. Below, we discuss Patent Owner’s arguments directed to each field.

With respect to the header, Patent Owner contends that Coffee teaches that each message has a *unique* header, not that the header is copied between messages. Prelim. Resp. 20 (citing Ex. 1005, Table 89, 67:51–68:33). With respect to the “Response,” Patent Owner contends that Coffee does not teach that the “Response” field is copied; rather, “[w]hen the operator selects a response, the MDT returns the ‘numeric response value,’ or ‘softkey number,’ and **not** the displayed text, in the response message.” *Id.* at 21 (citing Ex. 1005, 56:63–67, 24:31–32, 31:50–52, Table 38). With respect to the IOD, Patent Owner contends “Coffee never discloses that the IOD is automatically extracted from the received message. At most, Petitioner

¹⁰ As noted above, Petitioner contends that the phrase “a processor for creating said response message” is governed by 35 U.S.C. § 112 ¶ 6, but we did not reach the issue of construing this term expressly because it does not appear to be impacted by the parties’ present controversy. *See supra* § V.

¹¹ “Copied” is recited in limitation 1e3, whereas “filled in” is recited in limitation 12d. *Compare* Pet. 36 (discussing limitation 1e3), *with id.* at 61 (discussing limitation 12d).

establishes that a response message 7202 contains the same IOD value as received message 7102, not that it is automatically extracted.” *Id.* (citing Ex. 1005, 56:63–67).

On the present record, Patent Owner’s arguments directed to the “Header” and “Response” fields call into doubt Petitioner’s reliance upon Coffee as teaching that those fields are copied into a response message. In particular, Coffee describes the “standard message header format” in Table 89 and describes “a fixed five-word header section” that includes the “Data Word Count field,” which “indicates the number of 16-bit words contained in the data portion of a message . . . excluding the Data Checksum field.” Ex. 1005, 67:51–56, 67:64–67. Thus, the header appears to be specific to each message. In light of Coffee’s description, Petitioner’s reliance on a comparison of Tables 58 and 63, where each table shows a “Header” field and Mr. Andrews’s testimony, does not persuade us at this stage of the proceeding that Coffee teaches that the header is copied from a received message into a response message.

Additionally, with respect to the “Response” field, Coffee’s Table 58 (received message data 7102) shows “Response 1 Text,” “Response 2 Text,” “Response 3 Text,” and “Response 4 Text” whereas Coffee’s Table 63 (text message response 7202) simply shows “Response.” Ex. 1005, Tables 58, 63.¹² Coffee explains that “[w]hen the vehicle operator selects a response to a received text message, the MDT sends that response to the tracker using a Text Message Response message (7202, Table 63) which contains the IOD of the message being answered and the numeric response value.” *Id.* at

¹² Coffee’s Tables 58 and 63 were previously reproduced. *See supra* §§ VI.C.2 (Coffee’s description), VI.C.3.a.ii (with Petitioner’s annotations).

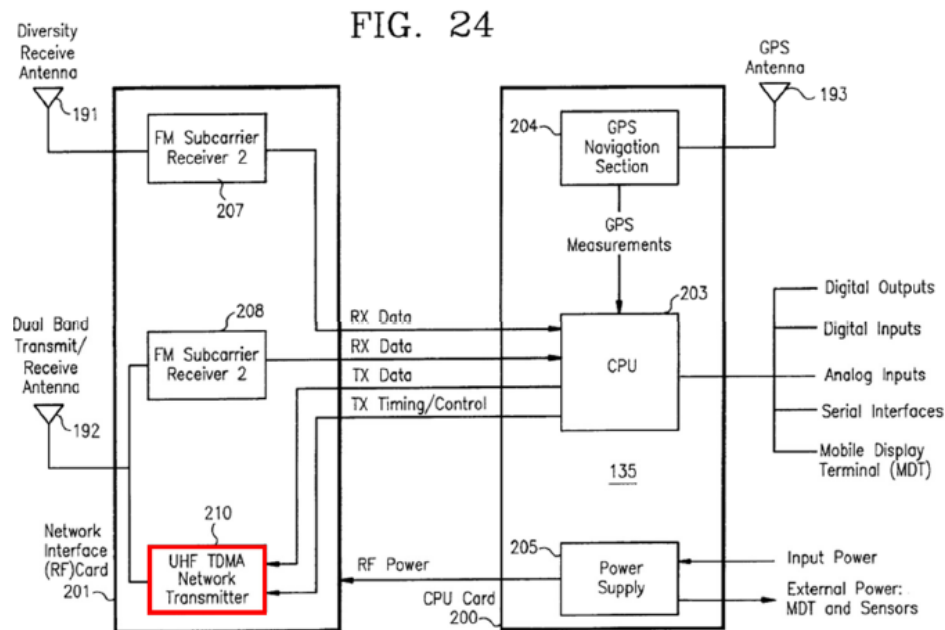
56:63–67; *see also id.* at 24:31–34 (indicating that “[w]hen a softkey is pressed to respond to a message, the softkey number is returned to the NDC server”), 31:50–51 (discussing a response that indicates “the recipient’s softkey response”). Thus, on the present record, the response message 7202 (a) does not appear to include the text of the response chosen; rather, it appears to include the numeric response value or softkey number, and (b) the inclusion of that numeric response value or softkey number appears to be a result of the operator’s selection and not copying. In light of Coffee’s description, Petitioner’s argument and evidence does not persuade us at this stage of the proceeding that Coffee teaches that the “Response” field is copied from a received message into a response message.

With respect to the IOD, however, we considered the parties’ arguments in the context of the similar language of limitation 1d (“field-mapping information for indicating *information to be copied*” (emphasis added)), and found, on the preliminary record before us, that Coffee’s description “support[s] Petitioner’s argument that Coffee’s system automatically copies the formatted message’s IOD to include it in the response message.” *See supra* § VI.C.3.a.ii. Accordingly, that same preliminary finding supports Petitioner’s argument with respect to copying the IOD based on field-mapping information as applied to this clause of limitation 1e3.

vi. Limitation 1f

Petitioner asserts that Coffee discloses “a transmitter for transmitting said information relating to said response message” as recited in claim 1, by disclosing a tracker that “includes a wireless network interface.” Pet. 39

(citing Ex. 1003 ¶ 124; Ex. 1005, 45:39–44). Petitioner includes the following annotated version of Coffee’s Figure 24:



Pet. 40. Figure 24 is a “simplified block diagram of a tracker installed in a vehicle of FIG. 23,” Ex. 1005, 8:5–6, and is shown above including Petitioner’s annotation, which places a red box around the UHF TDMA Network Transmitter, Pet. 40. Petitioner asserts that the RF section of the tracker “includes a transmitter to transmit data.” *Id.* at 39–40 (citing Ex. 1003 ¶ 125; Ex. 1005, 46:19).

Additionally, Petitioner asserts the tracker and the MDT “also communicate through a serial interface (*e.g.*, a Texas Instruments (TI) SN65C1167NS dual differential driver/receiver interface circuit[]).” Pet. 40 (citing Ex. 1003 ¶ 126; Ex. 1005, 55:9–13). Petitioner contends, “[a]s such, the MDT includes a transmitter for transmitting messages to the tracker.” *Id.* (citing Ex. 1003 ¶ 127). Petitioner asserts that “[w]hen the vehicle operator selects a response to the received message, the MDT sends that

response to the tracker.” *Id.* (citing Ex. 1003 ¶ 127; Ex. 1005, 56:63–67, Table 63).

In the Preliminary Response, Patent Owner does not contest that Coffee discloses limitation 1f. *See generally* Prelim. Resp.

Based on the present record, including the arguments and evidence provided by Petitioner, we find that Coffee discloses limitation 1f.

Accordingly, based on the arguments and evidence presented at this preliminary stage, we determine that Petitioner demonstrates a reasonable likelihood of prevailing with respect to claim 1.

b. Independent Claim 7

Independent claim 7 is directed to “[a] signal-bearing medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform operations for automatically entering information into formatted messages in a communication terminal, said operations comprising,” *inter alia*, “identifying which *information fields*, from said plurality of information fields, to be copied into said response message, based on said message identification code.” Ex. 1001, 9:53–57, 10:1–3 (emphasis added). Petitioner refers to this recitation of claim 7 as limitation 7e. Pet. 52–53. Limitation 7e recites language that is similar to limitation 1d, discussed above, and Petitioner incorporates its argument directed to limitation 1d in its analysis of limitation 7e. *See id.* at 52 (incorporating, *inter alia*, Petition § VI.A.1.(e) directed to limitation 1d). Limitation 7e, however, recites the plural information fields. Petitioner and Patent Owner appear to agree that the plural form of fields in limitation 7e requires identifying more than one information field. *See, e.g., id.* at 53 (relying on the Header, IOD, and Response information fields and stating

that “at least *some* of the information fields included with the received formatted message are necessarily copied over from the received message to the response message” (emphasis added)); Prelim. Resp. 26 (noting that claim 7 requires identifying “information fields”).¹³

As we found on the present record above, Petitioner has shown sufficiently for this stage of the proceeding that only the IOD (and not the Header and Response fields) is copied into a response message. Thus, Petitioner has not shown that more than one information field is identified to be copied into said response message as recited in limitation 7e. Further, Petitioner does not assert that it would have been obvious to modify Coffee to copy additional fields.

Accordingly, based on the record before us, Petitioner has not shown sufficiently that Coffee discloses and/or renders obvious limitation 7e.

c. Independent Claim 12

Independent claim 12 recites similar features to independent claim 1. *See, e.g.*, Pet. 58–61 (addressing claim 12 and incorporating arguments directed to claim 1); Prelim. Resp. 15–25 (addressing claims 1–4, 6, 12, and

¹³ Although the parties do not present this clause for construction, we note that the plural form of fields appears to require more than one field, especially when compared to the language of, e.g., claim 12, which recites “identifying *one or more* information fields.” Ex. 1001, 10:40. In other words, the different word choice by the patentee suggests that when the patentee intended to include one information field, the phrase “one or more” was used, whereas when the patentee intended to require more than one information field, the phrase “information fields” was used. *See, e.g., Phillips*, 415 F.3d at 1314–15 (noting that a “[d]ifference among claims can also be a useful guide in understanding the meaning of particular claim terms” (citing *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991))).

15 together). For the same reasons explained in the context of our consideration of claim 1 and the parties' arguments and evidence directed thereto, we are persuaded that Petitioner's contentions are sufficiently supported by the cited art, and, thus, Petitioner demonstrates a reasonable likelihood of prevailing with respect to claim 12.

d. Dependent Claims 2–4, 6, 8, 9, 11, and 15

Claims 2–4 and 6 depend from claim 1, claims 8, 9, and 11 depend from claim 7, and claim 15 depends from claim 12. Petitioner relies upon its discussion of the independent claims in its analysis of these dependent claims. *See, e.g.*, Pet. 40 (addressing dependent claim 2 and incorporating arguments from Petition §§ VI.A.1.(e)–(h)). Patent Owner relies upon its arguments directed to the independent claims and does not raise additional argument directed specifically to the dependent claims. *See generally* Prelim. Resp.

We have reviewed Petitioner's contentions directed to claims 2–4, 6, and 15, and we determine, on the present record, that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to these claims. Claims 8, 9, and 11, however, depend from claim 7, and, therefore, the deficiency identified above with respect to claim 7 (limitation 7e) also applies to these dependent claims. Accordingly, on the present record, Petitioner has not demonstrated a reasonable likelihood of prevailing with respect to claims 8, 9, and 11.

4. *Preliminary Conclusions as to Anticipation and Obviousness*¹⁴

For the reasons noted above, Petitioner has demonstrated a reasonable likelihood of prevailing with respect to showing that claims 1, 2–4, 12, and 15 are unpatentable as anticipated by Coffee. Because of our preliminary determination on anticipation, our institution of *inter partes* review also includes Petitioner’s challenge that Coffee would have rendered claims 1, 2–4, 12, and 15 obvious to one of ordinary skill in the art. *See infra* § VIII; 35 U.S.C. § 314(a).

D. *Obviousness over Coffee and Heijden*

Petitioner contends the combined teachings of Coffee and Heijden would have rendered the subject matter of claims 1–4, 7–9, and 12 obvious to one of ordinary skill in the art at the time of the invention. Pet. 62–76. In particular, Petitioner contends,

[t]o the extent that Coffee does not explicitly disclose “field-mapping information” that is stored on the MDT, it would have been obvious to a [person of ordinary skill in the art] to include “field-mapping information” with the “Received Message Data” packet (Table 58), the “Text Message Response” (Table 63), and/or data “to enable the vehicle operator to respond to text paging messages,” all of which are stored, at least temporarily, in memory of the MDT, as evidenced by Heijden.

Id. at 62–63 (citing Ex. 1003 ¶ 214; Ex. 1005, 54:66–55:9). Patent Owner presents arguments in response. Prelim. Resp. 27–40. Because we have determined that the information presented in the Petition and Preliminary Response shows that there is a reasonable likelihood that Petitioner will

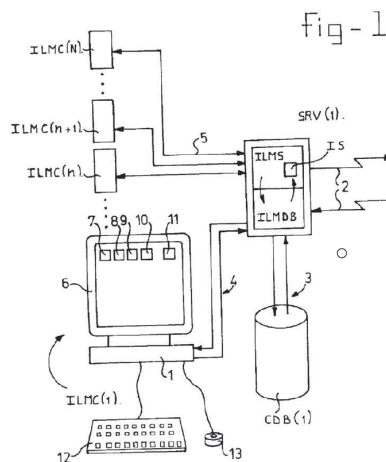
¹⁴ Neither party presents evidence of objective considerations of nonobviousness at this stage of the proceeding.

prevail with respect to at least one of the claims challenged, we need not address Petitioner’s additional challenge based on Coffee and Heijden at this stage of the proceeding. *See* 35 U.S.C. § 314(a). Nonetheless, we provide below a description of Heijden and observations regarding the parties’ arguments to help guide the parties during the ensuing trial.

1. *Heijden*

Heijden is directed to a method and apparatus for point-to-point communication between a sender and a receiver by means of messages with flexible message formats. Ex. 1006, code (57). Heijden explains that “[t]he flexible message format contains information that allows a receiver to interpret, understand and display the contents of the message, even if it has previously never been received.” *Id.* at 9:66–10:2. Heijden states that a user can receive, view, and send messages on a terminal. *Id.* at 10:24–26. Heijden’s flexible message format consists of header information and a series of fields, objects, maps, and actions. *Id.* at Fig. 2a, 12:26–30, 12:45–13:14.

Figure 1 is reproduced below:



Heijden’s Figure 1 shows a general overview in block diagram of the disclosed system. *Id.* at 11:15–16. In particular, Figure 1 shows a plurality

of servers (SRV(m)) connected to a customer database (CDB(1)) and one or more terminals (e.g., ILMC(1)), which includes monitor screen 6, processing unit 1, keyboard 12, and mouse 13. *Id.* at 11:22–34.

Heijden explains that server SRV(1) “is provided with a processor called InterLingua™ message server ILMS for receiving, passing or sending messages.” Ex. 1006, 11:47–49. “Part of the ILMS processor is indicated with IS (=InterLingua™ Script).” *Id.* at 11:50–51. IS “is a small, but powerful set of calculation, execution and conditional logic statements that give application level functionality to a message,” including the ability to load and store mapped field data defined by a message. *Id.* at 17:34–38.

Server SRV(L) “also comprises a database ILMDB (=InterLingua™ Message Database) for storing several tables.” Ex. 1006, 11:53–55. Certain relational tables within the database ILMDB are “needed to define and control a message either received or to be sent.” *Id.* at 14:3–5. Heijden explains:

Preferably, the database of the communication apparatus is organized in several tables to which reference is made from the message definition table. Then, the predetermined message definition table comprises a message system identifier for use as a reference to further tables in the database.

One of such further tables may be a field definition table for holding primary definitions for any field of the messages.

Preferably, one of such further tables is a field mapping table comprising mapping information usable by predetermined fields, e.g. for mappings to hyper text markup language fields, database fields, flat file fields and other message fields, said database fields and flat file fields being stored in a customer database.

Id. at 8:36–48.

2. *Observations Regarding Coffee and Heijden*

We offer the following observations on Petitioner’s challenge based on Coffee and Heijden and Patent Owner’s Preliminary Response.

First, Petitioner’s proposed combination relies upon Heijden to establish that it would have been obvious to include field-mapping information with the received message data packet, the text message response, and/or data to enable the vehicle operator to respond to text paging messages, and to store all of which, at least temporarily, in the memory of the MDT. *See* Pet. 62–63 (citations omitted). Although Petitioner includes claims 7–9 in its challenge under this ground, claim 7 does not recite “field-mapping information” or a memory for storing “field-mapping information.” Thus, it is not clear precisely how Petitioner intends this combination to apply to claims 7–9.

Second, Patent Owner raises several arguments in response to Petitioner’s contention that one of ordinary skill in the art would have been motivated to combine Coffee and Heijden. *See, e.g.*, Prelim. Resp. 29–33. On the present record and at this stage of the proceeding, Patent Owner’s contention Coffee and Heijden present “two entirely different communication systems” that may potentially have incompatibility issues if combined appears to be a bodily incorporation argument, which is generally not persuasive.

Third, Patent Owner raises several arguments directed to whether Heijden discloses certain claim limitations that we determine (on the present record) are taught by Coffee, e.g., “‘field-mapping’ that is ‘based on which one of said pre-defined formatted messages was received.’” *See, e.g.*, Prelim. Resp. 34. To the extent we find that Coffee teaches a particular

claim limitation, Petitioner need not also demonstrate that Heijden discloses the same.

VII. CONCLUSION

For the foregoing reasons, Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that at least one claim of the '308 patent is unpatentable. Our analysis is based on the preliminary record developed thus far and may change after the record is developed fully, during trial.

VIII. ORDER

Accordingly, it is:

ORDERED that Petitioner's Request for Rehearing (Paper 12) is *granted*; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review is instituted as to claims 1–4, 6–9, 11, 12, and 15 of the '308 patent on all of the grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

IPR2020-01612
Patent 6,925,308 B2

For PETITIONER:

John C. Phillips
Jason W. Wolff
Markus D. Weyde
FISH & RICHARDSON P.C.
phillips@fr.com
wolff@fr.com
weyde@fr.com

For PATENT OWNER:

Gianni Cutri
Michael W. De Vries
Akshay S. Deoras
Adam R. Alper
KIRKLAND & ELLIS LLP
gianni.cutri@kirkland.com
michael.devries@kirkland.com
akshay.deoras@kirkland.com
aalper@kirkland.com